GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA

UNSTARRED QUESTION NO:3942
ANSWERED ON:23.12.2015
Rising Sea Level
Udasi Shri Shivkumar Chanabasappa

Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether sea level is rising owing to global warming and posing a threat to the coastal villages of the country and if so, the details thereof and the reaction of the Government thereto;

(b) whether there is unauthorized development projects in coastal areas and decrease of green belt as a result thereof;

(c) if so, whether the Government has conducted any study in this regard and if so, the outcome thereof; and

(d) the other steps taken/being taken by the Government to address the problem?

Answer

THE MINISTER OF STATE FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND
MINISTRY OF EARTH SCIENCES
(SHRI Y. S. CHOWDARY)

(a) Yes Madam. Sea level rise is a very slow phenomenon and is manifested globally with pockets of sea level rise/fall trends. Recently released Fifth Assessment Report (AR5) of Intergovernmental Panel on Climate Change (IPCC) suggests that global mean sea level has risen by 0.19m over the period 1901-2010. Further, the fifth assessment report of IPCC reported that the mean rate of global averaged sea level rise was 1.7mm/year between 1901 and 2010 within which accelerated rate of 3.2mm/year was noticed between 1993 and 2010. Recent studies by Indian Scientists reveal that the trends of sea level rise is estimated to be 1.3mm/year along the Indian coasts during the last 40-50 years. Some parts of the Indian coastline have been facing coastal erosion and river mouths are experiencing deltaic subsidence. However, it has not been established that these manifestations are only due to rise in sea level.

(b) The Ministry of Environment and Forests (MoEF) had developed an Integrated Coastal Zone Management (ICZM) Plan for implementation in India with a view to ensure livelihood security to the fisher communities and other local communities, living in the coastal areas, to conserve and protect coastal stretches, its unique environment and its marine area and to promote development through sustainable manner based on scientific principles taking into account the dangers of natural hazards in the coastal areas, sea level rise due to global warming. This helps in declaring the coastal stretches of the country and the water area upto its territorial water limit, excluding the islands of Andaman and Nicobar and Lakshadweep and the marine areas surrounding these islands up to its territorial limit. Appropriate protection measures arising out of the coastal erosion are addressed jointly by respective state governments and the Coastal Protection and Development Advisory Committee (CPDAC) of the Central Water Commission.

(c) Yes, Madam. Several studies have been carried out using geospatial techniques along with ground truth survey all along the east coast of India. The Multi-resolution remote sensing satellite data of different dates were used for shoreline change rate. In most cases, the erosion is mainly due to anthropogenic activities such as construction of ports, breakwaters, groins etc. In some cases extreme events like cyclones, storm surges, river sediment/water discharge etc. cause shoreline erosion. In each state, the key erosion spots have been identified and currently studying causes of erosion particularly in such areas. Besides, a wide range of coastal vulnerability maps on different spatial scales are being generated for the entire coast of India by various agencies primarily for use in the forewarning of various ocean hazards viz., Tsunami, Cyclones and Storm Surges. An atlas on Coastal Vulnerability Index (CVI) on 1:1,00,000 scale has been prepared for the entire Indian coast. On a pilot scale, 3-Dimensional Geographical Information System (3D GIS) maps for the coastal stretch between Cuddalore and Nagapattinam have been completed in association with Industry Partners.

(d) The maps are provided by MoES to the coastal state governments / coastal administrators for utilisation towards saving lives and property during disasters including conducting periodical training programs to coastal administrators. The Ministry of Environment and Forest (MoEF) is using these maps for integrated coastal zone management activities. A National Centre for Sustainable Coastal Management (NCSCM) has been established by MoEF in Chennai to promote research and development in the area of coastal management including demarcation of hazard line for mapping the entire coastline of mainland India.